Biological Resources Report
for
APN: 033-209-432
San Bernardino County, CA

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(File No. 128-0003)

Prepared For:
Arrowhead Villas Mutual Service Company
767 Community Dr.
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And

Land Use Services Department
County of San Bernardino

Contents

Executive Summary

This Biological Resources Report has been prepared to evaluate the potential project effects of the Arrowhead Villas Mutual Services Company's proposed water tank development project on rare, threatened, or endangered species listed under the Federal Endangered Species Act of 1973 (FESA), the California Endangered Species Act (CESA), and local ordinances.

Randel Wildlife Consulting, Inc. has prepared this Biological Resources Report to present criteria used to determine which listed species were considered for evaluation and potential adverse effects to those species, if identified, from the proposed action. Additionally, this Biological Resources Report proposes measure to avoid, minimize, or mitigate take to those listed species identified as potentially occurring within the proposed project area.

Arrowhead Villas Mutual Services Company has proposed the redevelopment of a single parcel (APN 033-209-432) with an approximate area of 0.31 acres for the installation of two 34 foot diameter steel potable water tanks and associated water delivery infrastructure to service the Community of Arrowhead Villas, Skyforest, unincorporated San Bernardino County, California.

Randel Wildlife Consulting, Inc. conducted a review of relevant biological databases (e.g., California Natural Diversity Database, California Native Plant Society Rare Plant Index, U.S. Fish and Wildlife Service Critical Habitat Mapper, and National Wetlands Inventory) and literature for the Harrison Mountain 7.5-minute U.S. Geological Survey topographic quadrangle and all adjacent topographic quadrangles to identify potentially sensitive biological resources including: rare, threatened, and endangered species; critical habitat; as well as Waters of the State and Waters of the United States. The database queries and literature review resulted in the identification of 146 potentially occurring listed species (92 plant and 54 wildlife), no critical habitat units, and no Waters of the State or Waters of the United States at the subject property.

Randel Wildlife Consulting, Inc. conducted two field surveys (August 2018 and April 2019) to complete a habitat assessment of the subject property to support potentially occurring listed species identified during the desktop review. The list of potentially occurring listed species for consideration was reduced based on abiotic (elevation range, soil type, slope, aspect, proximity to water) and biotic conditions identified

during field surveys. The resulting list of potentially occurring listed species included: 14 plants, 7 reptiles, 6 birds, and 14 mammals.

The conclusions of this Biological Resources Report are based on literature reviews, including database queries, gray literature, peer-reviewed journal articles, and existing conditions at the subject property location.

Introduction

This Biological Resources Report has been prepared by Randel Wildlife Consulting, Inc. for Arrowhead Villas Mutual Services Company (project proponent) and the County of San Bernardino in accordance with federal, state, and local environmental regulations. The purpose of this Biological Resources Report is to address potential impacts to natural resources including rare, threatened, and endangered species identified under the Federal Endangered Species Act of 1973 (FESA), California Endangered Species Act (CESA), California Fish and Game Code (e.g., fully protected), as well as local ordinances resulting from implementation of the proposed actions more fully described below.

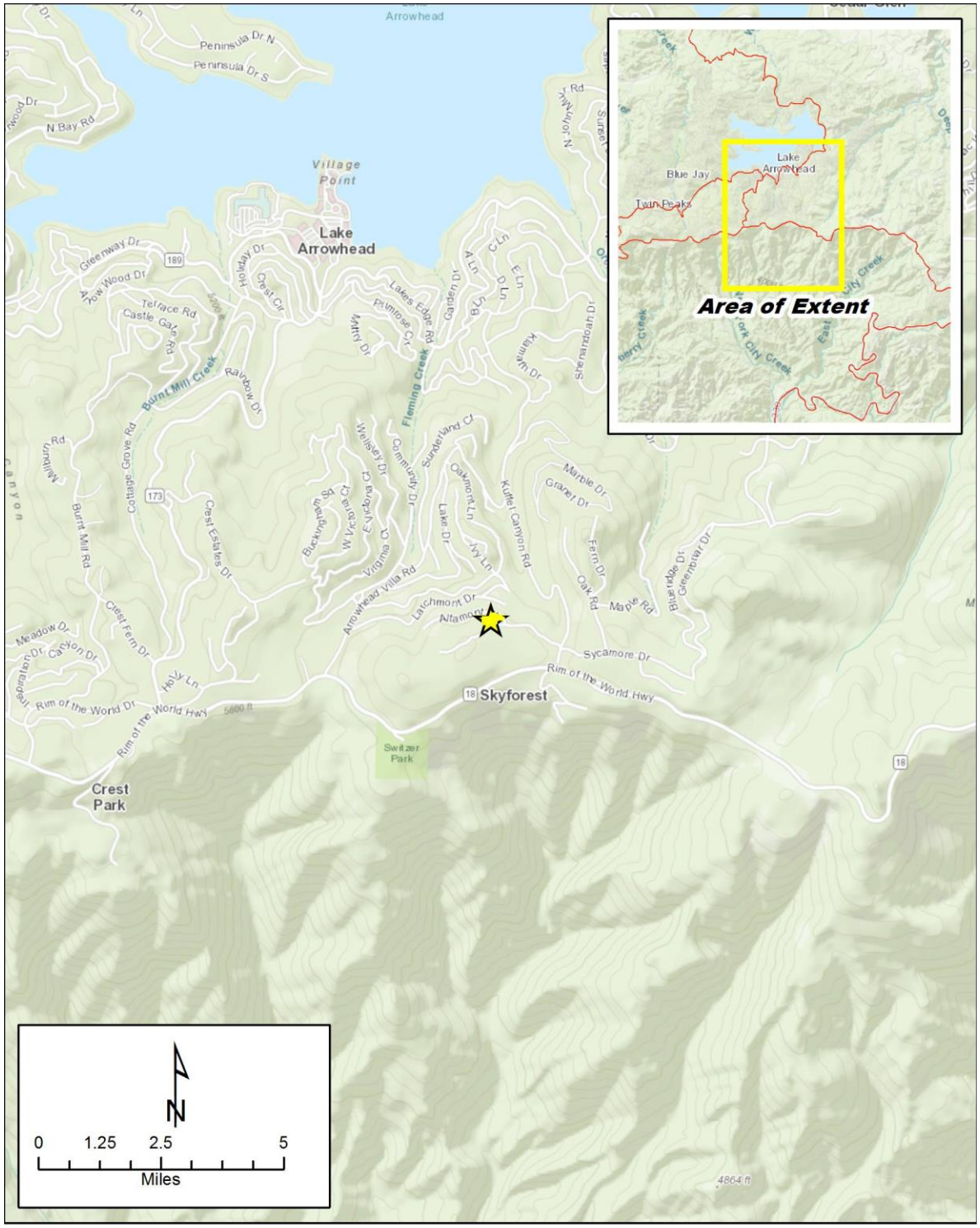
Project Location

The proposed project is located in the Southern California Mountains Major Land Resource Area of the California Subtropical Fruit, Truck, and Specialty Crop Region Land Resource Region, in unincorporated San Bernardino County, California (Figure 1. Regional Vicinity Map). The location is further described by the Public Land Survey System as being in the southeast 1/4 of the southwest 1/4 of Section 22, Township 2 North, Range 3 West; and entirely within the Harrison Mountain 7.5-Minute United States Geological Survey topographic quadrangle (USGS 1996; Figure 2. Topographic Map). The site consists of a single parcel (APN 033-209-432) having an approximate area of 0.31 acres, and is located to the north and south of Altamont Court, west of the intersection of Altamont Ct. and Sycamore Dr. (Figure 3. Local Vicinity Map).

Existing Conditions

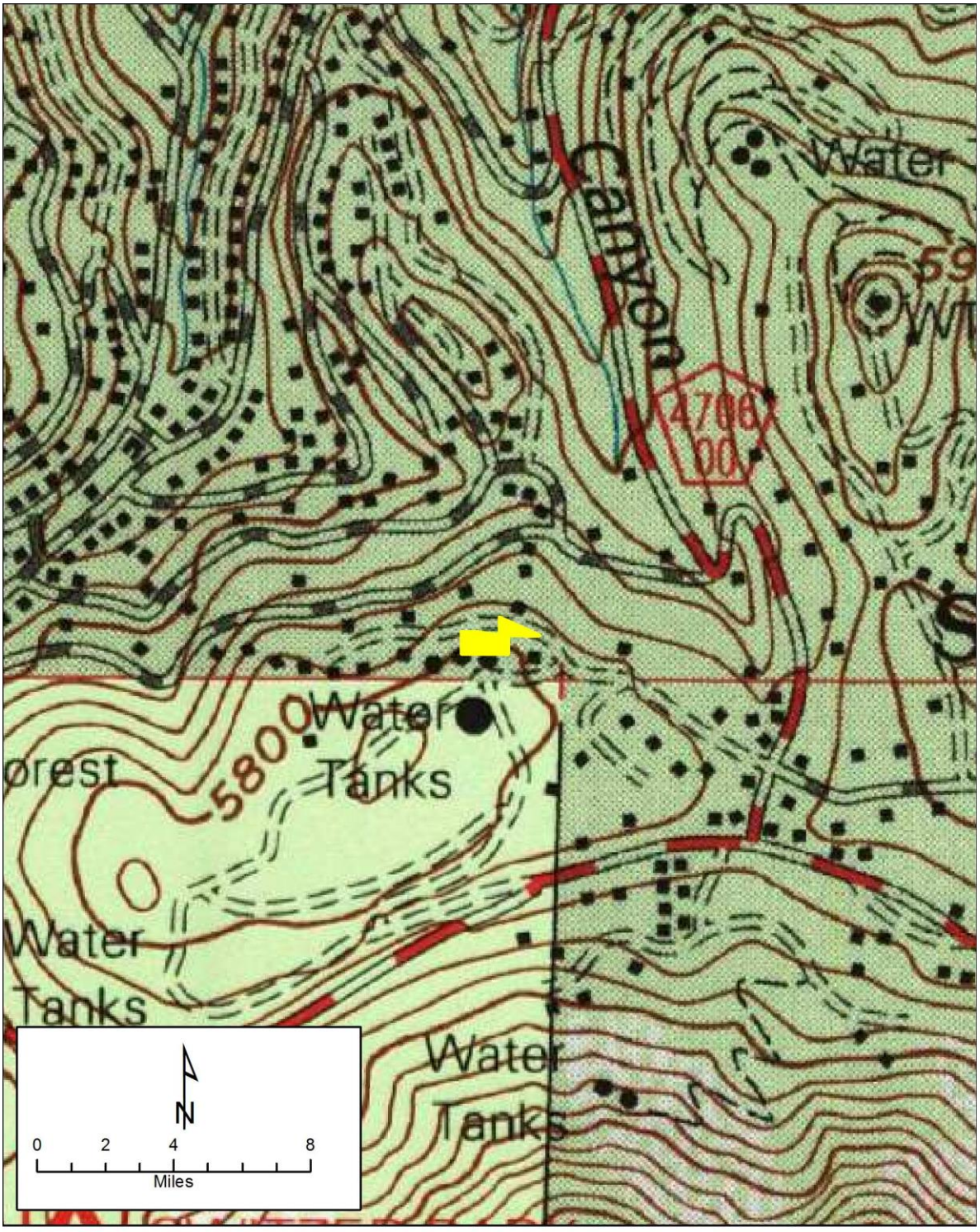
The elevation of the site is approximately 5,800 feet above mean sea level. A single soil type, Morical-Wind River families complex – 15-30% slope, was identified within the proposed project boundaries. This soil series is described as occurring on gently sloping to steep sites, with a moderately deep to deep profile, and is considered a well-drained to somewhat excessively drained sandy loam soil. The typical profile is described as having sandy loam soils to a depth of 34-45 inches below the surface, with weathered bedrock below 45 inches (NRCS 1987).

The vegetation community is most closely identified as a White Fir- Incense Cedar Forest association (Sawyer et al. 2009). White fir (*Abies concolor*) and incense cedar (*Calocedrus decurrens*) were the dominant species present throughout the proposed project area and accounted for greater than 60% of overall canopy cover (Appendix 1. Representative Site Photos).



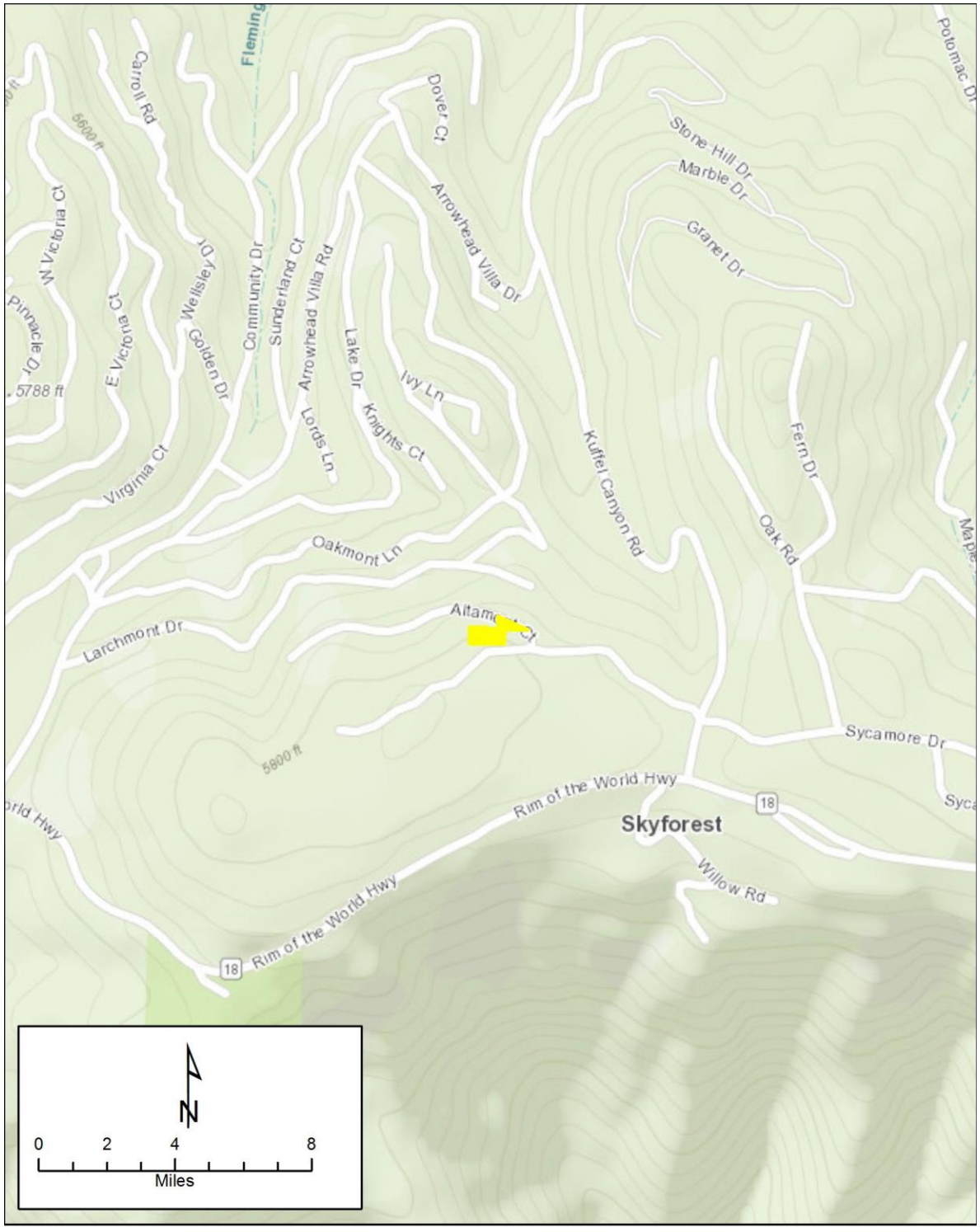
Project Location

Figure 1. Regional Vicinity Map



Subject Property

Figure 2. Topographic Map



Subject Property

Figure 3. Local Vicinity Map

The current land use of the subject site is a combination of low-density housing interspersed with open space elements. This includes single family residences on the northern parcel boundary with existing, occupied residences immediately to the north, east, and west. Open space elements are located south and southwest of Altamont Court, with the existing community water tank located in the southeastern portion of the southern project location.

Project Description

The Project Proponent has proposed the installation of two 34 foot diameter steel potable water tanks on a previously develop portion of the subject property. Each of the proposed water storage tanks will have an estimated height of 36 feet above existing and finished grade. In addition to the installation of the two steel water the project proponent has proposed the installation of new yard pipe, a pneumatic tank, and chain-link fence improvements at the proposed tank site. The project proponent has additionally proposed the installation of new water distribution and drainage piping north of the tank site along Altamont Court. Potable water piping is proposed to be installed approximately 5-6 feet below existing roadway grade. To accommodate the proposed project actions the project proponent anticipates the need remove an unspecified number of mature trees within and adjacent to the proposed tank site.

Methods

This following sections describe methods used to characterize and evaluate biological resources at the subject property. The study methods were designed to fulfill the requirements of the California Environmental Quality Act, including:

- Identification of biological resources present, as well as those potentially occurring, at the subject property, including special status species (listed, sensitive, and locally important species)
- A description of the properties physical characteristics, including: topography, soil types, vegetation assemblage(s).

The biological resources study was conducted by Randel Wildlife Consulting, Inc. biologist (Dr. Charles Randel) who is experienced in field surveys,

vegetation mapping, evaluation of riparian/wetland resources, and the evaluation of the presence/absence of special status species. Randel Wildlife Consulting, Inc. is familiar with both federal and state statutes protecting sensitive and listed species; in addition to having experience with impact analysis of project development on listed species and their associated habitats.

Database and Literature Review

Randel Wildlife Consulting, Inc. conducted a review of available databases including: the California Natural Diversity Database (CNDDB), California Native Plant Society Electronic Inventory (CNPSEI), the U.S. Fish and Wildlife Service (USFWS) Critical Habitat Mapper, and National Wetlands Inventory. Database reviews were conducted for the USGS Harrison Mountain 7.5-minute topographic quadrangle (USGS 1996) and all adjacent quadrangles to generate a list of potentially occurring rare, threatened, or endangered species. Randel Wildlife Consulting, Inc. additionally reviewed the proposed project site and surrounding areas (5 mile radius) for critical habitat units and wetlands protected under Section 404 of the Clean Water Act.

Special Status Species Habitat Assessment and Field Surveys

The results of the literature review and vegetation mapping were used to complete a habitat assessment and generate a list of potentially occurring listed plant and wildlife species for the subject property. Two field surveys were conducted by Randel Wildlife Consulting, Inc., one on 13 August 2018 and a second on 21 April 2019. Each field survey consisted of pedestrian surveys spaced at approximately 10 meters allowing for 100 percent visual coverage of the subject property. The physical characteristics of the subject property were recorded and all biological resources present identified to species when possible. Habitat suitability for each species identified during the literature review were determined based on field survey findings. Randel Wildlife Consulting, Inc. acknowledges the limitations of the field survey, with particular reference to potentially occurring listed plant species due to survey timing being outside the known blooming period for many species identified during the literature review.

Results

California Natural Diversity Database

The database reviews for potentially occurring listed biological resources were centered on the USGS Harrison Mountain 7.5-minute topographic quadrangle and included the eight (8) adjacent USGS topographic quadrangles. Database (CNDDB and CNPS-RPI) queries identified 92 potentially occurring listed plant species and 55 potentially occurring wildlife species.

Potentially Occurring Listed Plant Species

Among the 92 potentially occurring listed plant species 78 were eliminated from further consideration based on known range of occurrence, known elevation of occurrence (±500 m), known soil type preference, and/or habitat associations. None of the remaining 14 potentially occurring listed plant species were identified as federally or state threatened (Table 1).

Table 1. Potentially Occurring Listed Plant Species.

Species	Status				Habitat / Blooming Period	Potential for Occurrence
	FESA	CESA	CDFW/ State	CNPS		
Marsh sandwort *Arenaria paludicola*	FE	SE	-	1B.1	Perennial stoloniferous herb found in sand openings of freshwater or brackish Marsh and Swamp habitats. Highly localized known only from Black Lake Canyon and Oso Flaco Lake. Site is >160 m above known maximum elevation range.	Not Expected
Nevin's barberry *Berberis nevinii*	FE	SE	-	1B.1	Perennial evergreen shrub found on sandy or gravelly sites in Chaparral, Cismontane woodland, Coastal scrub, and Riparian scrub habitats. Blooming period is March to June. Suitable habitat not present. Site is >160 m above known maximum elevation range.	Not Expected
Salt marsh bird's-beak *Chloropyron maritimum* ssp. *maritimum*	FE	SE	-	1B.1	Hemiparasitic annual herb found in Coastal dunes and Coastal salt marshes and swamps. Blooming period is May to October. Suitable habitat not present. Site is >160 m above known maximum elevation range.	Not Expected

Species	Status				Habitat / Blooming Period	Potential for Occurrence
	FESA	CESA	CDFW/ State	CNPS		
Slender-horned spineflower *Dodecahema leptoceras*	FE	SE	-	1B.1	Annual herb found on sandy sites in Chaparral, Cismontane woodland, and alluvial fan Coast Scrub habitats. Blooming period is April to June. Site is >160 m above known maximum elevation range.	Not Expected
Bird-foot checkerbloom *Sidalcea pedata*	FE	SE	-	1B.1	Perennial herb found on mesic sites in Meadow and seeps and Pebble (pavement) plain. Blooming period is May to August. No suitable habitat present.	Not Expected
Santa Ana River woollystar *Eriastrum densifolium* ssp. *sanctorum*	FE	SE	-	1B.1	Perennial herb found on sandy or gravelly sites in Chaparral and Coastal Scrub habitats. Blooming period is April to September. Suitable habitat not present. Site is >160 m above known maximum elevation range.	Not Expected
Cushenbury buckwheat *Eriogonum ovalifolium* var. *vineum*	FE	-	-	1B.1	Perennial herb found on carbonite sites in Joshua tree woodland, Mojavean desert scrub, and Pinyon and juniper woodland habitats. Blooming period is May to August. Suitable habitat is not present.	Not Expected
Cushenbury oxytheca *Acanthoscyphus parishii* var. *goodmanii*	FE	-	-	1B.1	Annual herb found on sandy, carbonate sites in Pinyon and Juniper Woodland habitats. Blooming period is May to October. Suitable soils (sandy) not present.	Not Expected
Thread-leaved brodiaea *Brodiaea filifolia*	FT	SE	-	1B.1	Perennial bulbiferous herb found on clay sites in Chaparral, Cismontane woodland, Coast scrub, Playas, Valley and foothill grassland, and Vernal pool habitats. Blooming period is March to June. Site is >160 m above known maximum elevation range.	Not Expected
Parish's daisy *Erigeron parishii*	FT	-	-	1B.1	Perennial herb typically found on carbonate, sometimes granitic sites in Mojavean desert scrub and Pinyon and juniper woodland habitats. Blooming period is May to August. Suitable habitats not present.	Not Expected

Species	Status				Habitat / Blooming Period	Potential for Occurrence
	FESA	CESA	CDFW/ State	CNPS		
Southern mountain buckwheat *Eriogonum kennedyi* var. *austromontanum*	FT	-	-	1B.2	Perennial herb found in Lower montane coniferous forest (gravelly sites) and Pebble (pavement) plain habitats. Blooming period is June to September. Suitable habitat not present.	Not Expected
Ash-gray paintbrush *Castilleja cinerea*	FT	-	-	1B.2	Hemiparasitic perennial herb found in Mojavean desert scrub, Meadows and seeps, Pebble (pavement) plain, Pinyon and juniper woodland, Upper montane coniferous forest (clay openings) habitats. Blooming period is June to August. Suitable habitat not present.	Not Expected
Big Bear Valley sandwort *Eremogone ursina*	FT	-	-	1B.2	Perennial herb found on mesic, rocky sites in Meadows and seeps, Pebble (pavement) plain, and Pinyon and juniper woodland habitats. Blooming period is May to August. Suitable habitats not present.	Not Expected
Mojave tarplant *Deinandra mohavensis*	-	SE	-	1B.1	Annual herb found on mesic sites in Chaparral, Coastal scrub, and Riparian scrub habitats. Blooming period is June to October. Suitable habitats not present.	Not Expected
Parish's bush-mallow *Malacothamnus parishii*	-	-	-	1A	Perennial deciduous shrub found in Chaparral and Coastal scrub habitats. Blooming period is June to July. Suitable habitats nor present. Site is >160 m above known maximum elevation range.	Not Expected
Smooth tarplant *Centromadia pungens* ssp. *laevis*	-	-	-	1B.1	Annual herb found on alkaline sites in Chenopod scrub, Meadows and seeps, Playas, Riparian woodland, and Valley and foothill grassland habitats. Blooming period is April to September. Site is >160 m above known maximum elevation range.	Not Expected
Parry's spineflower *Chorizanthe parryi* var. *parryi*	-	-	-	1B.1	Annual herb found on sandy or rocky, openings in Chaparral, Cismontane woodland, Coastal scrub, and Valley and foothill grassland habitats. Blooming period is April to	Not Expected

Species	Status				Habitat / Blooming Period	Potential for Occurrence
	FESA	CESA	CDFW/ State	CNPS		
					June. Site is >160 m above known maximum elevation range.	
White-bracted spineflower *Chorizanthe xanti* var. *leucotheca*	-	-	-	1B.1	Annual herb found on sandy or gravelly sites in Coastal scrub (alluvial fan), Mojavean desert scrub, and Pinyon and juniper woodland habitats. Suitable habitat not present. Site is >160 m above known maximum elevation range.	Not Expected
Wedgeleaf woodbeauty *Drymocallis cuneifolia* var. *cuneifolia*	-	-	-	1B.1	Perennial herb found on carbonate sites in Riparian scrub and Upper montane coniferous forest habitats. Blooming period is June to August. Suitable soils not present.	Not Expected
Big Bear Valley milk-vetch *Astragalus lentiginosus* var. *sierrae*	-	-	-	1B.2	Perennial herb found on gravelly or rocky sites in Mojavean desert scrub, Meadows and seeps, Pinyon and juniper woodland, and Upper montane coniferous forest habitats. Blooming period is April to August. Suitable habitat (rocky meadow / pine woodland) not present.	Not Expected
Big Bear Valley woollypod *Astragalus leucolobus*	-	-	-	1B.2	Perennial herb found on rocky sites in Lower montane coniferous forest, Pebble (pavement) plain, Pinyon and juniper woodland, and Upper montane coniferous forest habitats. Blooming period is May to July.	Low
Parish's rockcress *Boechera parishii*	-	-	-	1B.2	Perennial herb found on rocky, quartzite on clay, or carbonate sites in Pebble (pavement) plain, Pinyon and Juniper woodland, and Upper montane coniferous forest habitats. Suitable soils not present.	Not Expected
Palmer's mariposa-lily *Calochortus palmeri* var. *palmeri*	-	-	-	1B.2	Perennial bulbiferous herb found in Chaparral, Cismontane woodland, Coast scrub, and Valley and foothill grassland habitats. Blooming period is March to June. Suitable habitat not present.	Not Expected
San Bernardino Mountains owl's-clover *Castilleja lasiorhyncha*	-	-	-	1B.2	Hemiparastic perennial herb found on mesic sites in Chaparral, Meadows and seeps, Pebble (pavement)	Not Expected

Species	Status				Habitat / Blooming Period	Potential for Occurrence
	FESA	CESA	CDFW/ State	CNPS		
					plain, Riparian woodland, and Upper montane coniferous forest habitats. Blooming period is May to August. Suitable habitat not present.	
San Bernardino Mountains dudleya *Dudleya abramsii* ssp. *affinis*	-	-	-	1B.2	Perennial herb found on granitic, quartzite, or carbonate sites in Pebble (pavement) plain, Pinyon and juniper woodland, and Upper montane coniferous forest habitats. Blooming period is April to July. Suitable soils not present.	Not Expected
San Bernardino Mountains monkeyflower *Erythranthe exigua*	-	-	-	1B.2	Annual herb found on mesic, clay sites in Meadows and seeps, Pebble (pavement) plain, and Upper montane coniferous forest habitats. Blooming period is May to July. Suitable habitat not present. Site is >160 m lower than known elevation minimum for species.	Not Expected
Little purple monkeyflower *Erythranthe purpurea*	-	-	-	1B.2	Annual herb found in Meadow and seeps, Pebble (pavement) plain, and Upper montane coniferous forest habitats. Blooming period is May to June.	Low
Alvin Meadow bedstraw *Galium californicum* ssp. *primum*	-	-	-	1B.2	Perennial herb found on granitic, sandy sites in Chaparral and Lower montane coniferous forest habitats. Blooming period is May to July. Suitable habitats not present.	Not Expected
Bolander's horkelia *Horkelia bolanderi*	-	-	-	1B.2	Perennial rhizomatous herb found on edges, vernally mesic areas in Chaparral, Lower montane coniferous forest, Meadow and seeps, and Valley and foothill grassland sites. Blooming period is June to August. Suitable habitat not present.	Not Expected
Mesa horkelia *Horkelia cuneata* var. puberula	-	-	-	1B.2	Perennial herb found on gravelly or sandy sites in Maritime chaparral, Cismontane woodland, and Coastal scrub habitats. Blooming period is February to July. Site is >160 m above known maximum elevation range.	Not Expected
Silver-haired ivesia	-	-	-	1B.2	Perennial herb found in alkaline Meadows and	Not Expected

Species	Status				Habitat / Blooming Period	Potential for Occurrence
	FESA	CESA	CDFW/ State	CNPS		
Ivesia argyrocoma var. *argyrocoma*					seeps, Pebble (pavement) plain, and Upper montane coniferous forest habitats. Blooming period is June to August.	
Lemon lily *Lilium parryi*	-	-	-	1B.2	Perennial bulbiferous herb found on mesic sites in Lower montane coniferous woodland, Meadows and seeps, Riparian forest, and Upper montane coniferous forest habitats. Blooming period is July to August. Suitable sites not present.	Not Expected
Baja navarretia *Navarretia peninsularis*	-	-	-	1B.2	Annual herb found on mesic sites in Chaparral, Lower montane coniferous forest, Meadows and seeps, and Pinyon and juniper woodland habitats. Blooming period is June to August. Suitable sites not present.	Not Expected
Short-joint beavertail *Opuntia basilaris* var. *brachyclada*	-	-	-	1B.2	Perennial stem succulent found in Chaparral, Joshua tree woodland, Mojavean desert scrub, and Pinyon and juniper woodland habitats. Blooming period is April to June. Suitable habitat not present.	Not Expected
San Bernardino ragwort *Packera bernardina*	-	-	-	1B.2	Perennial herb found in Meadows and seeps, Pebble (pavement) plain, and Upper montane coniferous forest habitats. Blooming period is May to July.	Low
Beaver Dam breadroot *Pediomelum castoreum*	-	-	-	1B.2	Perennial herb found in sandy, washes and roadcuts in Joshua tree woodland and Mojavean desert scrub habitats. Blooming period is April to May. Suitable habitat not present.	Not Expected
Big Bear Valley phlox *Phlox dolichantha*	-	-	-	1B.2	Perennial herb found in Pebble (pavement) plain and Upper montane coniferous forest (openings) habitats. Blooming period is May to July. Suitable habitat nor present.	Not Expected
Latimer's woodland-gilia *Saltugilia latimeri*	-	-	-	1B.2	Annual herb found on rocky or sandy, often granitic sites in Chaparral, Mojavean desert scrub, and Pinyon juniper woodland habitats. Blooming period is March to June. No suitable habitat present	Not Expected

Species	Status				Habitat / Blooming Period	Potential for Occurrence
	FESA	CESA	CDFW/ State	CNPS		
Black bog-rush *Schoenus nigricans*	-	-	-	1B.2	Perennial herb found in Marsh and swamp habitats. Blooming period is August to September. No suitable habitat present.	Not Expected
Southern mountains skullcap *Scutellaria bolanderi* ssp. *austromontana*	-	-	-	1B.2	Perennial rhizomatous herb found on mesic sites in Chaparral, Cismontane woodland, and Lower montane coniferous forest. Blooming period is June to August. No suitable habitat present.	Not Expected
Parish's checkerbloom *Sidalcea hickmanii* ssp. *parishii*	-	-	-	1B.2	Perennial herb found in Chaparral, Cismontane woodland, and Lower montane coniferous forest. Blooming period is June to August.	Low
Bear Valley checkerbloom *Sidalcea malviflora* ssp. *dolosa*	-	-	-	1B.2	Perennial herb found in Meadows and seeps and Riparian woodlands. Blooming period is May to August. Suitable habitatnot present.	Not Expected
San Bernardino aster *Symphyotrichum defoliatum*	-	-	-	1B.2	Perennial rhizomatous herb found near ditches, streams, and springs in Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Meadows and seeps, Marshes and swamps, and Valley and foothill grassland habitats. Blooming period is July to November. No suitable habitat present.	Not Expected
Mt. Pinos onion *Allium howellii* var. clokeyi	-	-	-	1B.3	Perennial bulbiferous herb found in Great Basin scrub, Meadows and Seeps, and Pinyon Juniper Woodland habitats. Blooming period is April to June. Suitable soils (vertic clay) and habitats not present.	Not Expected
Parish's alumroot *Heuchera parishii*	-	-	-	1B.3	Perennial rhizomatous herb found on rocky sites in Cismontane woodland, Lower montane coniferous forest, Montane riparian forest, and Upper montane coniferous forest habitats. Blooming period is May to August.	Not Expected
Hall's monardella *Monardella macrantha* ssp. *hallii*	-	-	-	1B.3	Perennial rhizomatous herb found in Broadleafed upland forest, Chaparral, Cismontane woodland, Lower montane coniferous	Not Expected

Species	Status				Habitat / Blooming Period	Potential for Occurrence
	FESA	CESA	CDFW/ State	CNPS		
					forest, and Valley and foothill grassland habitats. Blooming period is June to October. Suitable habitat (chaparral, woodland) not present.	
Southern jewelflower *Streptanthus campestris*	-	-	-	1B.3	Perennial herb found on rocky sites in Chaparral, Lower montane coniferous forest, and Pinyon and juniper woodland habitats. Blooming period is May to July. No suitable habitat present.	Not Expected
California satintail *Imperata brevifolia*	-	-	-	2B.1	Perennial rhizomatous herb found on mesic sites in Chaparral, Coastal scrub, Mojavean desert scrub, Meadows and seeps, and Riparian scrub habitats. Blooming period is September to May. Site is >160 m above known maximum elevation range.	Not Expected
Shockley's rockcress *Boechera shockleyi*	-	-	-	2B.2	Perennial herb found on carbonate or quartzite, rocky or gravelly sites in Pinyon and juniper woodland habitats. Blooming period is May to June. Suitable habitats not present.	Not Expected
Hot springs fimbristylis *Fimbristylis thermalis*	-	-	-	2B.2	Perennial rhizomatous herb found near alkaline hot springs. Blooming period is July to September. Site is >160 m above known maximum elevation range.	Not Expected
Parish's yampah *Perideridia parishii* ssp. *parishii*	-	-	-	2B.2	Perennial herb found in lower montane coniferous forest, Meadows and seeps, and Upper montane coniferous forest habitats. Blooming period is June to August.	Low
Salt Spring checkerbloom *Sidalcea neomexicana*	-	-	-	2B.2	Perennial herb found on alkaline and mesic sites in Chaparral, Coastal scrub, Lower montane coniferous forest, Mojavean desert scrub, and Playa habitats. Blooming period is March to June. Suitable habitat (alkaline springs / marshes) not present.	Not Expected
Prairie wedge grass *Sphenopholis obtusata*	-	-	-	2B.2	Perennial herb found on mesic sites in Cismontane woodland and Meadows and seeps habitats.	Not Expected

Species	Status				Habitat / Blooming Period	Potential for Occurrence
	FESA	CESA	CDFW/ State	CNPS		
					Blooming period is April to July. No suitable habitat present.	
Sonoran maiden fern *Thelypteris puberula* var. *sonorensis*	-	-	-	2B.2	Perennial rhizomatous herb found in Meadows and seeps habitats. Blooming period is January to September. No suitable habitat present. Site is >160 m above known maximum elevation range.	Not Expected
Pinyon rockcress *Boechera dispar*	-	-	-	2B.3	Perennial herb found on granitic, gravelly sites in Joshua tree woodland, Mojavean desert scrub, and Pinyon and juniper woodland habitats. Blooming period is March to June. Suitable habitats not present.	Not Expected
Booth's evening-primrose *Eremothera boothii* ssp. *boothii*	-	-	-	2B.3	Annual herb found in Joshua tree woodland and Pinyon and juniper woodland habitats. Blooming period is April to September. Suitable habitats not present.	Not Expected
Parish's desert-thorn *Lycium parishii*	-	-	-	2B.3	Perennial shrub found in Coastal scrub and Sonoran desert scrub habitats. Blooming period is March to April. Site is >160 m above known maximum elevation range.	Not Expected
Colville's dwarf abronia *Abronia nana* var. *colvillei*	-	-	-	4.2	Perennial herb found on carbonate, sandy sites in Great Basin scrub, Joshua tree woodland, Pinyon and juniper woodland, Subalpine coniferous forest, and Upper montane coniferous forest habitats. Blooming period is May to August. Suitable habitat (dry sandy sites) not present.	Not Expected
Parish's oxytheca *Acanthoscyphus parishii* var. *parishii*	-	-	-	4.2	Annual herb found on sandy or gravelly sites in Chaparral and Lower montane coniferous forest habitats. Blooming period is June to September. Suitable soils (sandy) not present.	Not Expected
California androsace *Androsace elongata* ssp. *acuta*	-	-	-	4.2	Annual herb found in Chaparral, Cismontane woodland, Coastal scrub, Meadow and seeps, Pinyon and juniper woodland, and	Not Expected

Species	Status				Habitat / Blooming Period	Potential for Occurrence
	FESA	CESA	CDFW/ State	CNPS		
					Valley and foothill grassland habitats. Blooming period is March to June. Site is >160 m above known maximum elevation range.	
Mexican mosquito fern *Azolla microphylla*	-	-	-	4.2	Annual/perennial herb found in Marsh and swamps (ponds, slow water) habitats. Blooming period is August. Suitable habitat not present. Site is >160 m above known maximum elevation range.	Not Expected
Catalina mariposa-lily *Calochortus catalinae*	-	-	-	4.2	Site is >160 m above known maximum elevation range.	Not Expected
Plummer's mariposa-lily *Calochortus plummerae*	-	-	-	4.2	Perennial bulbiferous herb found on granitic, rocky sites in Chaparral, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, and Valley and foothill grassland habitats. Blooming period is May to July. Suitable habitat (dry, rocky chaparral / yellow-pine forest) not present.	Not Expected
White pygmy-poppy *Canbya candida*	-	-	-	4.2	Annual herb found on gravelly, sandy, granitic sites in Joshua tree woodland, Mojavean desert scrub, and Pinyon and juniper woodland habitats. Blooming period March to June. Suitable habitats not present. Site is >160 m above known maximum elevation range.	Not Expected
Southern California black walnut *Juglans californica*	-	-	-	4.2	Perennial deciduous tree found on alluvial sites in Chaparral, Cismontane woodland, Coastal scrub, and Riparian woodland habitats. Blooming period is March to August. Site is >160 m above known maximum elevation range.	Not Expected
Ocellated Humboldt lily *Lilium homboldtii* ssp. *ocellatum*	-	-	-	4.2	Perennial bulbiferous herb found in openings of Chaparral, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, and Riparian woodland habitats. Blooming period is March to July. Suitable habitat (oak canyons, chaparral,	Not Expected

Species	Status				Habitat / Blooming Period	Potential for Occurrence
	FESA	CESA	CDFW/ State	CNPS		
					yellow-pine forest) not present.	
Parish's onion *Allium parishii*	-	-	-	4.3	Perennial bulbiferous herb found on ricky sites in Joshua tree woodland, Mojavean desert scrub, and Pinyon and juniper woodland habitats. Blooming period is April to May. Suitable habitat (open rocky slopes) not present.	Not Expected
Crested milk-vetch *Astragalus bicristatus*	-	-	-	4.3	Perennial herb found on mostly carbonate sandy or rocky sites in Lower montane coniferous forest and Upper montane coniferous forest habitats. Blooming period is May to August.	Low
Heckard's paintbrush *Castilleja montigena*	-	-	-	4.3	Hemiparastic perennial herb found in Lower montane coniferous forest, Pinyon and juniper woodland, and Upper montane coniferous forest habitats. Blooming period is May to August. Suitable habitat (dry, rocky, open slopes and flats in open forest, pinyon/juniper woodland) not present.	Not Expected
Mojave paintbrush *Castilleja plagiotoma*	-	-	-	4.3	Hemiparastic perennial herb found in Great Basin scrub (alluvial), Joshua tree woodland, Lower montane coniferous forest, and Pinyon and juniper woodland habitats. Blooming period is April to June. Suitable habitat not present.	Not Expected
Johnston's monkeyflower *Diplacus johnstonii*	-	-	-	4.3	Annual herb found in scree, disturbed areas, rocky or gravelly, roadside sites in Lower montane coniferous forest habitats. Blooming period is May to August.	Low
Southern Sierra woolly sunflower *Eriophyllum lanatum* var. *obovatum*	-	-	-	4.3	Perennial herb found on sandy loam sites in Lower montane coniferous forest and Upper montane coniferous forest habitats. Blooming period is June to July. Suitable soils not present.	Not Expected
Pine green-gentian *Frasera neglecta*	-	-	-	4.3	Perennial herb found in Lower montane coniferous forest, Pinyon and juniper woodland, and Upper	Moderate

Species	Status				Habitat / Blooming Period	Potential for Occurrence
	FESA	CESA	CDFW/ State	CNPS		
					montane coniferous forest habitats. Blooming period is May to July.	
Pine fritillary *Fritillaria pinetorum*	-	-	-	4.3	Perennial bulbiferous herb found on granitic or metamorphic sites in Chaparral, Lower montane coniferous forest, Pinyon and juniper woodland, Subalpine coniferous forest, and Upper montane coniferous forest habitats. Blooming period is May to July. Suitable soils not present.	Not Expected
Johnston's bedstraw *Galium johnstonii*	-	-	-	4.3	Perennial herb found in Chaparral, Lower montane coniferous forest, Pinyon and juniper woodland, and Riparian woodland habitats. Blooming period is June to July.	Low
Abrams' alumroot *Heuchera abramsii*	-	-	-	4.3	Site is >160 m lower than known elevation minimum for species.	Not Expected
Urn-flowered alumroot *Heuchera caespitosa*	-	-	-	4.3	Perennial rhizomatous herb found on rocky sites in Upper montane coniferous forest habitats. Blooming period is July to August. Suitable habitats not present.	Not Expected
Parry's sunflower *Hulsea vestita* ssp. *parryi*	-	-	-	4.3	Perennial herb found on granitic or carbonate, rocky openings in Lower montane coniferous forest, Pinyon and juniper woodland, and Upper montane coniferous forest habitats. Blooming period is April to August.	Not Expected
Duran's rush *Juncus duranii*	-	-	-	4.3	Perennial rhizomatous herb found on mesic sites in Lower montane coniferous forest, Meadows and seeps, and Upper montane coniferous forest habitats. Blooming period is July to August. Suitable habitats not present.	Not Expected
Silky lupine *Lupinus elatus*	-	-	-	4.3	Perennial herb found in Lower montane coniferous forest and Upper montane coniferous forest habitats. Blooming period is June to August.	Moderate
California muhly *Muhlenbergia californica*	-	-	-	4.3	Perennial rhizomatous herb found on mesic, seeps and streambanks in Chaparral, Coastal scrub, Lower	Not Expected

Species	Status				Habitat / Blooming Period	Potential for Occurrence
	FESA	CESA	CDFW/ State	CNPS		
					montane coniferous forest, and Meadow and seeps habitats. Blooming period is June to September. Suitable habitat not present.	
Tehachapi ragwort *Packera ionophylla*	-	-	-	4.3	Perennial herb found on granitic, rocky sites in Lower montane coniferous forest and Upper montane coniferous forest habitats. Blooming period is June to July. Suitable habitat not present.	Not Expected
Transverse Range phacelia *Phacelia exilis*	-	-	-	4.3	Annual herb found on sandy or gravelly sites in Lower montane coniferous forest, Meadow and seeps, Pebble (pavement) plain, and Upper montane coniferous forest habitats. Blooming period is May to August.	Low
Mojave phacelia *Phacelia mohavensis*	-	-	-	4.3	Annual herb found on sandy or gravelly sites in Lower montane coniferous forest, Cismontane woodland, Meadows and seeps, and Pinyon and juniper woodland. Blooming period is April and August.	Not Expected
Woolly chaparral-pea *Pickeringia montana* var. *tomentosa*	-	-	-	4.3	Evergreen shrub found on Gabbroic, granitic, and clay sites in Chaparral habitats. Blooming period is May to August. Suitable habitat not present.	Not Expected
Narrow-petaled rein orchid *Piperia leptopetala*	-	-	-	4.3	Perennial herb found in Cismontane woodland, Lower montane coniferous forest, Upper montane coniferous forest habitats. Blooming period is May to July	Low
Parish's rupertia *Rupertia rigida*	-	-	-	4.3	Perennial herb found in Chaparral, Cismontane woodland, Lower montane coniferous forest, Meadows and seeps, Pebble (pavement) plain, and Valley and foothill grassland habitats. Blooming period is June to August. Suitable habitat (woodland, chaparral, lower montane conifer forest) not present.	Not Expected
Bluish spike-moss *Selaginella asprella*	-	-	-	4.3	Perennial rhizomatous herb found on granitic, rocks	Low

Species	Status				Habitat / Blooming Period	Potential for Occurrence
	FESA	CESA	CDFW/ State	CNPS		
					sites in Cismontane woodland, Lower montane coniferous forest, Pinyon juniper woodland, Subalpine coniferous forest, and Upper montane coniferous forest. Blooming period is July.	
Chickweed oxytheca *Sidotheca caryophylloides*	-	-	-	4.3	Annual herb found on sandy sites in Lower montane coniferous forest habitats. Blooming period is July and September. No suitable habitat present.	Not Expected
Laguna Mountains jewelflower *Streptanthus bernardinus*	-	-	-	4.3	Perennial herb found in Chaparral and Lower montane coniferous forest habitats. Blooming period is May to August.	Low
Lemmon's syntrichopappus *Syntrichopappus lemmonii*	-	-	-	4.3	Annual herb found on sandy and gravelly sites in Chaparral, Joshua tree woodland, and Pinyon and juniper woodland habitats. Blooming period is April to May. No suitable habitat present.	Not Expected
Small-flowered bluecurls *Trichostema micranthum*	-	-	-	4.3	Annual herb found on mesic sites in Lower montane coniferous forest and Meadows and seeps habitats. Blooming period is June to September. No suitable habitat present.	Not Expected

Potentially Occurring Listed Plant Communities

The CNDDB query identified the eight potentially occurring listed plant communities: Mixed Montane Chaparral, Riversidean Alluvial Fan Sage Scrub, Semi Desert Chaparral, Southern Mixed Riparian Forest, Southern Riparian Forest, Southern Sycamore Alder Riparian Woodland, Southern Willow Scrub, and Western Ponderosa Pine Forest. None of the eight potentially occurring listed plant communities were identified by Randel Wildlife Consulting, Inc. during field survey efforts.

Potentially Occurring Listed Wildlife Species

Randel Wildlife Consulting, Inc. reviewed biotic (e.g., host plants and habitat associations) and abiotic (soil type, elevation, known range) to refine the list of potentially occurring listed species identified during the database review. The following sections provide the refined list of potentially occurring species (with status) within or adjacent to the subject property.

Insects

One potentially occurring listed insect species was identified during the desktop biological review, the federally endangered Quino checkerspot (*Euphydryas editha ehrlichi*). The quino checkerspot was eliminated from further consideration due to a lack of suitable host plant species within, or adjacent to, the subject property (Table 2).

Table 2. Potentially Occurring Listed Insect Species.

Species	Status			Habitat	Potential for Occurrence
	FESA	CESA	CDFW/ State		
Quino checkerspot butterfly *Euphydryas editha quino*	FE	-	-	Scrub habitats in Riverside and San Diego Counties	Not Expected

Fish

Five potentially occurring listed fish species were identified during the desktop review, all five species were eliminated from further consideration due to a lack of suitable aquatic resources within, or adjacent to, the subject property (Table 3).

Table 3. Potentially Occurring Listed Fish Species.

Species	Status			Habitat	Potential for Occurrence
	FESA	CESA	CDFW/ State		
Mohave tui chub *Siphateles bicolor mohavensis*	FE	SE	FP	Freshwater obligate species. Suitable habitat absent	Not Expected
Santa Ana sucker *Catostomus santaanae*	FT	-	-	Freshwater obligate species. Suitable habitat absent	Not Expected
Arroyo chub *Gila orcuttii*	-	-	SSC	Freshwater obligate species. Suitable habitat absent	Not Expected
Santa Ana speckled dace *Rhinichthys osculus* ssp. 3	-	-	SSC	Freshwater obligate species. Suitable habitat absent	Not Expected
Steelhead (Southern California DPS)	FE	-	-	Freshwater obligate species. Suitable habitat absent	Not Expected

Species	Status			Habitat	Potential for Occurrence
	FESA	CESA	CDFW/ State		
Oncorhynchus mykiss irideus (pop. 10)					

Amphibians

Five potentially occurring listed amphibian species were identified during the desktop review. All potentially occurring listed amphibian were eliminated from further consideration due to a lack of suitable habitats (Table 4).

Table 4. Potentially Occurring Listed Amphibian Species.

Species	Status			Habitat	Potential for Occurrence
	FESA	CESA	CDFW/ State		
Southern Mountain yellow-legged frog *Rana muscosa*	FE	SE	WL	Historically inhabited rocky and shaded streams on desert and coastal slopes from 1200–7500 ft above mean sea level	Not Expected
California red-legged frog *Rana draytonii*	FT	-	SSC	Requires habitat matrix of riparian and upland sites with pools and backwaters within streams and creeks.	Not Expected
Arroyo toad *Anaxyrus californicus*	FE	-	SSC	Specialized habitat needs include exposed sandy stream sides with stable terraces and scattered vegetation for sheltering. Suitable habitat absent,	Not Expected
Western spadefoot *Spea hammondii*	-	-	SSC	Prefers open areas with sandy or gravelly soils with a habitat matrix including mixed woodlands, grasslands, chaparral, sandy washes, river floodplain, alluvial fans, alkali flats, foothills, and mountains.	Not Expected
Coast Range newt *Taricha torosa*	-	-	SSC	Typically associated with wet forests, oak forests, chaparral, and rolling grasslands.	Not Expected

Reptile

Twelve potentially occurring listed reptile species were identified during the desktop review. Seven of 12 reptile species identified during the desktop review were considered to have a low to moderate potential for occurrence at the subject property, including the state threatened southern rubber boa (*Charina umbratica*) (Table 5).

Table 5. Potentially Occurring Listed Reptile Species.

Species	Status			Habitat / Blooming Period	Potential for Occurrence
	FESA	CESA	CDFW/ State		
Southern rubber boa *Charina umbratica*	-	ST		Occurs in oak-conifer and mixed-conifer forest habitats with rocks, logs, and debris for shelter at elevations ranging from 5000–8200 feet above mean sea level	Moderate
Southern California legless lizard *Anniella stebbinsi*	-	-	SSC	May be found in chaparral, pine-oak woodlands, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks. Occasionally found in suburban gardens.	Low
California glossy snake *Arizona elegans occidentalis*	-	-	SSC	Prefers open areas with loose soil in scrub, rocky washes, grassland, and chaparral habitats.	Low
Orange-throated whiptail *Aspidoscelis hyperythra*	-	-	WL	Subject property is outside the known range of this species	Not Expected
Coastal whiptail *Aspidoscelis tigris stejnegeri*	-	-	SSC	Primarily associated with hot and dry open areas of sparse vegetation in chaparral, woodland, and riparian areas.	Low
Red-diamond rattlesnake *Crotalus ruber*	-	-	SSC	Subject property is outside the known range of this species	Not Expected
Southwestern pond turtle *Actinemys pallida*	-	-	SSC	Associated with permanent aquatic habitats.	Not Expected
California mountain kingsnake *Lampropeltis zonata* (*parviruba*)	-	-	WL	Habitat generalist associated with coniferous forest, oak-pine woodlands, riparian woodland, chaparral, manzanita, and coastal sage scrubs.	Moderate
Coast horned lizard *Phrynosoma blainvillii*	-	-	SSC	Typically found in open areas of sandy soil and low vegetation in valley, foothills, and semiarid mountains.	Low
Coast patch-nosed snake *Lampropeltis zonata*	-	-	SSC	Associated with semi-arid areas in canyons and rocky hillsides primarily in chaparral.	Low
Two-striped gartersnake *Thamnophis hammondii*	-	-	SSC	Associated with permanent water sources including pools, creeks, and stock tanks near oak woodland, chaparral, brushland, and coniferous forest habitats.	Not Expected
South coast gartersnake *Thamnophis sirtalis*	-	-	SSC	Habitat generalist associated with forest, mixed woodland, grassland, and chaparral. Typically associated with permanent water sources.	Not Expected

Birds

Seventeen potentially occurring listed bird species were identified during the desktop review. Six of 17 birds species identified during the desktop review were considered to have the potential to occur at the subject property. Four of the six

bird species identified [bald eagle (*Haliaeetus leucocephalus*), golden eagle (*Aquila chrysaetos*), long-eared owl (*Asio otus*), and California spotted owl (*Strix occidentalis occidentalis*)] are considered year-round residence in California; with the remaining two potentially occurring listed bird species [purple martin (*Progne subis*) and olive-sided flycatcher (*Contopus cooperi*)] present during the breeding season only.

Table 6. Potentially Occurring Listed Bird Species.

Species	Status			Habitat	Potential for Occurrence
	FESA	CESA	CDFW/ State		
Southwestern willow flycatcher *Empidonax traillii extimus*	FE	SE	-	Breeding season habitat is relatively dense riparian woodland and shrub communities associated with rivers, swamps, and other wetlands. Suitable habitat not present.	Not Expected
California condor *Gymnogyps californianus*	FE	SE	FP	Subject parcel is outside the known current distribution of this species.	Not Expected
Least Bell's vireo *Vireo bellii pusillus*	FE	SE	-	Associated with dense shrubby or scrubby habitats in early successional stages of riverine scrub, coastal chaparral, scrub oak, and mesquite bosques. Suitable habitat not present.	Not Expected
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FT	SE	-	Associated with wooded habitats near dense cover in close proximity to water. Suitable habitat not present.	Not Expected
Coastal California gnatcatcher *Polioptila californica californica*	FT	-	SSC	Associated with coastal sage scrub, desert scrub, and coastal dune habitats. Suitable habitat not present.	Not Expected
Willow flycatcher *Empidonax traillii*	-	SE	-	Breeding season habitat is relatively dense riparian woodland and shrub communities associated with rivers, swamps, and other wetlands. Suitable habitat not present.	Not Expected
Bald eagle *Haliaeetus leucocephalus*	-	SE	FP	Associated with open coniferous and deciduous woodland near open habitats.	Moderate
Golden eagle *Aquila chrysaetos*	-	-	FP ; WL		Low-Moderate
Long-eared owl *Asio otus*	-	-	SSC		Low-Moderate
Burrowing owl *Athene cunicularia*	-	-	SSC		Not Expected
Olive-sided flycatcher *Contopus cooperi*	-	-	SSC	In southern California species is associated with pine forest near openings and edges.	Low

Species	Status			Habitat	Potential for Occurrence
	FESA	CESA	CDFW/ State		
Yellow-breasted chat *Icteria virens*	-	-	SSC	Associated with shrubby habitats near river courses. Suitable habitat not present.	Not Expected
Loggerhead shrike *Lanius ludovicianus*	-	-	SSC	Associated with open habitats interspersed with short vegetation, shrubs, or short trees. Suitable habitat not present.	Not Expected
Summer tanager *Piranga rubra*	-	-	SSC	Western populations are associated with low-elevation willow and cottonwood woodlands, and high elevation mesquite or saltcedar stands. Suitable habitat not present.	Not Expected
Purple martin *Progne subis*	-	-	SSC		Moderate
Yellow warbler *Setophaga petechial*	-	-	SSC	Associated with disturbed or regeneration habitats in close proximity to streams and wetlands. Suitable habitat not present.	Not Expected
California spotted owl *Strix occidentalis occidentalis*	-	-	SSC		Moderate

Mammals

Fourteen potentially occurring listed mammal species were identified during the desktop review. Six of the 14 mammal species identified during the desktop review were considered to have the potential to occur within or adjacent to the subject property. Among the six potentially occurring listed mammal species, only the San Bernardino flying squirrel (*Glaucomys oregonensis californicus*) was determined to have a high potential for occurrence.

Table 7. Potentially Occurring Listed Mammal Species.

Species	Status			Habitat	Potential for Occurrence
	FESA	CESA	CDFW/ State		
San Bernardino kangaroo rat *Dipodomys merriami parvus*	FE	-	SSC	San Bernardino kangaroo rats are associated with alluvial fan habitats south of the Cajon Pass. Subject property is outside the known range of this species	Not Expected
San Bernardino flying squirrel *Glaucomys oregonensis californicus*	-	-	SSC	Associated with high-elevation, mixed-conifer forests with Jeffery pine, white fir, or black oak are dominate. Species is known to occur in close proximity to subject property	High
Northwestern San Diego pocket mouse	-	-	SSC	Species is associated with rocky, gravelly, or sand sites in	Not Expected

Species	Status			Habitat	Potential for Occurrence
	FESA	CESA	CDFW/ State		
Chaetodipus fallax fallax				arid coastal or desert scrub habitats. No suitable habitat present.	
White-eared pocket mouse *Perognathus alticolus alticolus*	-	-	SSC	Habitat associations of this species are poorly known, but appears to occur most often in ponderosa and Jeffery pine habitats from 3500-5900 feet above mean sea level.	Low
Los Angeles pocket mouse *Perognathus longimembris brevinasus*	-	-	SSC	Suitable habitats for this species include Riversidean sage scrub, coastal sage scrub, Riversidean alluvial fan sage scrub, desert scrub, chaparral, grassland, playas, and vernal pools on sandy sites. No suitable habitat present.	Not Expected
San Diego desert woodrat *Neotoma lepida intermedia*	-	-	SSC	This subspecies of the desert woodrat is typically associated with rock outcroppings, cacti patches, and dense understories in sage scrub and chaparral habitats. No suitable habitat preset.	Not Expected
San Diego black-tailed jackrabbit *Lepus californicus bennettii*	-	-	SSC	Subspecies may occupy a diversity of habitats, but most commonly associated with open grasslands, agricultural area, and plant communities with low density vegetation. Suitable habitat not present.	Not Expected
Pallid bat *Antrozous pallidus*	-	-	SSC	Species uses a wide variety of habitats including grassland, shrubland, woodlands and forests. Typically found in open, dry habitats, with rocky outcroppings to roost.	Low
Townsend's big-eared bat *Corynorhinus townsendii*	-	-	SSC	Species uses a wide variety of habitats including montane coniferous forest. Species is known to occur in the region.	Moderate-High
Western mastiff bat *Eumops perotis californicus*	-	-	SSC	Associated with semi-arid conifer and deciduous woodland, coastal scrub, annual/perennial grasslands, palm oasis, chaparral, desert scrub, and urban habitats.	Low
Western yellow bat *Lasiurus xanthinus*	-	-	SSC	Uncommon species in California. Associated with valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Suitable habitat not present.	Not Expected
Fringed myotis *Myotis thysanodes*	-	-	SSC	Primarily associated with desert shrub, sagebrush-grasslands, and woodland habitats. May be found in fir	Low

Species	Status			Habitat	Potential for Occurrence
	FESA	CESA	CDFW/ State		
				and pine forest at elevations below 6,800 feet.	
Pocketed free-tail bat *Nyctinomops femorosaccus*	-	-	SSC	Species typically associated with semi-arid deserts; roosts in caves, mines, and rock crevices. No suitable habitat present	Not Expected
American badger *Taxidea taxus*	-	-	SSC	Typically associated with sites having friable soils in herbaceous, shrub, and open habitats. No suitable habitat present.	Not Expected

Habitat Assessment

Southern Rubber Boa

The southern rubber boa is a small, stout-bodied, species with smooth scales and blunt head and tail (Brown 1997, Hoyer and Stewart 2000). Adults range in color from light brown with an unmarked yellow venter, and can be distinguished from juveniles by their darker coloration and more pronounced difference between dorsal and ventral coloration (Hoyer and Stewart 1997). Southern rubber boa have a restricted distribution being found only in the San Bernardino and San Jacinto Mountains of San Bernardino and Riverside Counties, California. The reported elevation range from known specimens is typically between 5050-8070 feet above mean sea level in these locations (Stewart 1988, 1991).

The typical habitats for this species is mixed conifer-oak forest or woodland habitats dominated by two or more of the following species: white fir (*Albies concolor*), incense cedar (*Calocedrus decurrens*), Jeffery pine (*Pinus jefferyi*), yellow pine (*P. ponderosa*), sugar pine (*P. lambertinana*), and black oak (*Quercus kelloggii*). Refugia sites including rock outcroppings and surface debris (e.g. downed logs, well developed litter/duff layer, and rocks) appear to be an important feature in all habitats where the species is known to occur (Loe 1985).

While no southern rubber boa were encountered during field surveys conducted by Randel Wildlife Consulting, Inc. in August 2018 or April 2019, the southern rubber boa is considered to have a moderate potential to occur within the subject

property. The subject property is within the known range of the southern rubber boa, with the dominant plant community described in the Existing Conditions section of this report known to support southern rubber boa occupancy. Additional habitat features including downed debris and a well-developed duff layer were present at the subject property, furthering Randel Wildlife Consulting, Inc.'s determination of a moderate potential for occurrence of the state threatened southern rubber boa within or adjacent to the subject parcel. While the subject property was determined to have a moderate potential to support southern rubber boa, the currently proposed construction footprint is unlikely to support permanent occupancy of the species, as such, it is recommended that California Department of Fish and Wildlife protocol surveys be conducted of the subject property prior to initiation of ground disturbance activities.

San Bernardino Flying Squirrel

The San Bernardino flying squirrel is subspecies of the Humboldt's flying squirrel (*Glaucomys oregonensis*) currently listed as a California Species of Special Concern. The species is primarily nocturnal in habits showing biphasic activity pattern during summer months (Wells-Gosling and Heaney 1984), making direct observation during diurnal surveys more difficult. This species is known to occupy a wide range of woodland habitat consisting primarily of coniferous and mixed coniferous-deciduous forest biomes (Ransome and Sullivan 1997). Tree species commonly associated with occupancy of the parent taxa include: white fir, red fir (*Albies magnifica*), lodgepole pine (*Pinus contorta*), Jeffery pine, and western white pine (*P. monticola*).

While Randel Wildlife Consulting, Inc. did not directly observe San Bernardino flying squirrel within the subject property during field surveys, suitable habitat is present within the subject property. Further review of the San Diego Natural History Museum's Flying Squirrels of Southern California observation map website (http://flyingsquirrels.sdnhm.org/observations/fullmap/) resulted in numerous citizen science reports of San Bernardino flying squirrel in close proximity to the subject property resulting in the determination of the species having a high likelihood of occurrence within the subject property. Prior to

initiation of proposed construction activities it is recommended that potential nesting trees within the subject property scheduled for removal be inspected by a California Department of Fish and Wildlife permitted biologist for the presence of suitable cavities which may be occupied.

Wildlife Corridors

The proposed project is located within a California Essential Habitat Connectivity Area based on a review of CDFW geospatial wildlife corridor and habitat linkage datasets. Due to the proposed projects relatively small footprint and location within a currently developed community, the proposed action is unlikely to have a significant impact to regional wildlife movement patterns.

Critical Habitat

The review of USFWS critical habitat units for species identified as threatened or endangered under FESA resulted in no critical habitat overlaying the subject property. Critical habitat units were present within the 5-mile buffer with mountain yellow-legged frog critical habitat located 1.6 miles SSE of the subject property; and arroyo toad critical habitat located 4.6 miles ENE of the subject property. Proposed project activities are not anticipated to have an impact to either critical habitat unit.

National Wetland Inventory

The review of the National Wetland Inventory for the Harrison Mountain 7.5-minute USGS topographic quadrangle (USGS 1996) resulted no federal or state jurisdictional waters or water courses within the subject property.

Impact Analysis

Direct Impacts

Proposed project construction activities associated with the installation of a new water tanks and associated water delivery infrastructure will have direct impacts to the vegetation communities through the removal existing trees and

vegetation. The direct impacts associated with proposed construction activities are not likely to have long-term significant effects to biological resources at the local or regional scales. No direct impact to rare, threatened, or endangered species or their associated habitats are anticipated as a result of proposed construction activities.

It is recommended that a pre-construction survey of proposed impact areas be conducted prior to vegetation removal to ensure potentially occurring listed species (e.g., southern rubber boa and San Bernardino flying squirrel) and nesting birds are not directly impacted as a result of construction activities.

Indirect Impacts

Indirect impacts associated with proposed construction activities include temporary displacement of native wildlife species, specifically native birds, observed on site. Contingent on timing and duration of the proposed construction activities, temporary disruption of nesting bird activities may be avoided by conducting ground disturbance and vegetation removal outside the known nesting bird season.

Recommendations

- **Pre-Construction Surveys:** It is recommended that the project proponent retain the services of a qualified biologist(s) to conduct pre-construction surveys prior to initiation of work activities. It is recommended that pre-construction surveys be conducted to determine the presence/absence of potentially occurring listed species including the southern rubber boa and San Bernardino flying squirrel. Should construction activities, specifically vegetation/tree removal, be conducted between the months of February and October that a pre-construction nesting bird and roosting bat surveys be conducted to minimize potential take of these species.

Literature Cited

California Department of Fish and Wildlife. Accessed 7 June 2019. RareFind 5: California Natural Diversity Database. Sacramento, CA.

California Native Plant Society. Accessed 7 June 2018. Inventory of Rare and Endangered Plants. Sacramento, CA. Available at: http://www.cnps.org/cnps/rareplants/inventory/

Brown, P.R. 1997. A field guide to snakes of California. Gulf Publishing Company, Houston, Texas.

Hoyer, R.F., and G.R. Stewart. 2000. Biology of the rubber boa (*Charina bottae*), with emphasis on *C. b. umbratica*). Part I: Capture, size, sexual dimorphism, and reproduction. Journal of Herpetology 34:348–354.

Loe, S.A. 1985. Habitat management guide for southern rubber boa (*Charin bottae umbratica*) on the San Bernardino National Forest. U.S. Dept. of Agriculture, San Bernardino National Forest, San Bernardino, California.

Ransome, D.B., and T.P. Sullivan. 1997. Food limitation and habitat preference of *Glaucomys sabrinus* and *Tamiasciurus hudsonicus*. Journal of Mammalogy 78:538–549.

Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009. A Manual of California Vegetation, Second Edition. California Native Plant Society, Sacramento, California.

Stewart, G.R. 1988. The rubber boa (*Charina bottae*) in California, with particular reference on the southern subspecies, *C. b. umbratica*. Proceedings of the Conference on California Herpetology 4:131–138.

Stewart, G.R. 1991. Status of the southern rubber boa (*Charina bottae umbratica*) in the San Bernardino Mountains of southern California. Report prepared for the U.S. Fish and Wildlife Service, Laguna Niguel, California.

United States Department of Agriculture, Natural Resources Conservation Service [NRCS]. 1987, Soil survey of the San Bernardino National Forest Area, California. Accessible online at:

https://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/california/sanbernardinoNFCA1979/sanbernardinoNFCA1979.pdf.

United States Geological Survey [USGS]. 1996. Harrison Mountain 7.5-minute topographic quadrangle. U.S. Geological Survey, Denver, CO.

Wells-Gosling, N., and L.R. Heaney. 1984. *Glaucomys sabrinus*. Mammalian Species 229:1-8.

APPENDIX 1. REPRESENTATIVE SITE PHOTOGRAPHS

Figure 1. Proposed Project Location Entry Fence (Photo Taken Facing East).

Figure 2. Proposed Project Location Interior Photograph Showing Gravel Base (Photo Taken Facing East).

Figure 3. Proposed Project Location Showing Existing Structure and Southern Fence Line (Photo Taken Facing Southeast).

Figure 4. Proposed Project Location Interior Photograph Showing Gravel Base and Existing Pipe Stubs(Photo Taken Facing North).